

ART. III. *On Ice and Chloride of Soda in Scarlatina Cynanchica, with Observations.* By SAMUEL JACKSON, M. D., late of Northumberland, now of Philadelphia.

We must premise that we are not about to write an elaborate essay, or to say all that can be said or imagined concerning the history and treatment of scarlatina; but merely to offer some desultory observations which appear necessary to the full developement of our practice with *ice and chloride of soda*. Our paper will, therefore, be replete with abrupt transitions, which cannot be avoided without an inappropriate multiplication of words.

The scarlatina may be fairly considered as one of the most interesting diseases to which the human family is liable. It extends over the greatest portion of the globe; every child is considered as subject to it; and from its frequent mortality among young children, it becomes a subject of intense interest to parents. In the treatment of a disease so frequently fatal as this, in its severer forms of malignant scarlatina and putrid sore throat, a remedy of greater efficacy than any hitherto known, is no inconsiderable acquisition to medical science.

But of making many books, said the wise man, there is no end. If this reproach had a just application to the days of Solomon, what shall be said of the present multiplication of literature, even in medicine alone? As some apology then for writing on the present occasion, we shall introduce some extracts from a few of the letters of our medical friends.

From William H. Magill, M. D., of Danville, Pennsylvania.

"As the use of ice in my practice had been suggested by yourself, I felt desirous of testifying to its excellency in the local treatment. In the early stage of this disease, it has certainly effected more in my hands than all other remedies, in counteracting the tendency to ulceration. There is one peculiarity in the remedy, that from its soothing and grateful effects on the parched and painful throat, whether of the adult or child, it is unceasingly solicited."

From Aristide Rodrigue, M. D., of Sunbury, Pa., July 19th, 1834.

"I think it my duty to communicate to you the result of my treatment of the *putrid sore throat*, especially as I am indebted to you for the principles of the course I pursued. The success was such that this formidable disease may now be truly considered as divested of its once frightful mortality, and reduced to one of the least fatal.

"In the winter of 1832-3, this disease first appeared in the neighbourhood of Bald Eagle Tavern, Huntingdon county, previous to which it had been spread-

ing through the country in every direction, and proving very fatal under the old stimulating practice. From that period to this I count upwards of one hundred and thirty cases, in my own practice, of genuine putrid sore throat, occurring in those parts of Huntingdon, Clearfield, and Centre counties, adjoining the neighbourhood of Philipsburgh, then my residence. Many slight cases of inflammation of the throat with fever, which immediately yielded to local applications, I do not enumerate. The disease assumed, in the greater number of the above cases, the very worst form, spreading over the whole of the fauces and posterior nares, leaving, after the sloughing, deep cavities, the tonsils almost eaten away, and in a few cases the uvula.

"The treatment consisted in bleeding from the arm; leeches to the throat; purging with Epsom salts and a solution of tartar emetic; gargles of chloride of lime or soda. But my chief dependence was upon ice, or iced water, which was *constantly* administered, either by holding the ice in the mouth, or by giving the iced water. The grateful feelings produced, and the marked benefits always derived from its use, compel me to acknowledge my entire confidence in its power over this dreadful disease."

From J. R. Lotz, M. D. of New Berlin, Union county, Pa., January, 1838.

The Doctor writes me that he has "practised extensively in this district; that in mild cases, attention to the bowels with the antiphlogistic regimen and ice, were all that proved necessary; that the cases, however, thus easily managed, were comparatively few, as the disease was generally attended with a high degree of excitement, the fauces much swollen and of a dark colour. In this form of the disease, I commenced my treatment with cathartics. If there was much pain in the head, I ordered cold applications to it with ice to the throat. When the above treatment was promptly used, very little was left to be done. I do not recollect an instance of ulcerated throat wherein ice was diligently tried.

"In the congestive form, wherein there was much apparent debility and oppression, I generally had recourse to the warm-bath with cold applications to the head. Bleeding was almost universally necessary, and was performed in the jugular vein, or temporal artery. As soon as reaction was established, evacuants and the constant use of ice, was all that proved necessary.

"About the beginning of September, the disease still raging, and there being but one ice-house in town, the benevolent owner, John Laschelles and his family, denied themselves this luxury, and kept it all for the benefit of my patients. Not unfrequently I wrapped large pieces in flannel and tied them to my saddle, for the use of my country patients.

"It is my decided conviction that ice in the scarlatina, is the most useful article in the whole catalogue of remedies. I have also used it in common inflammations of the throat, and always with decided advantage."

From the Thesis of my former pupil, Dr. Henry Pleasants, graduated in the University of Pennsylvania, 1834.

"Before Northumberland was visited by this dreadful scourge, great ravages had been committed by it in several of the neighbouring towns. Many children fell victims to this disease, and a great majority was thought to have perished from ulceration of the throat."

After mentioning the great alarm that was excited in our neighbourhood by the approaching malady, the Doctor continues by stating the treatment adopted by the physicians of those places, many of whom he says, and justly too, "were held in high estimation."

"With a knowledge," he adds, "of the awful fatality which it had caused in the neighbouring towns, it is not surprising that the residents of this place (Northumberland) felt the greatest solicitude for the welfare of their children. Here, luckily for the inhabitants, the career of their enemy was arrested, here was it to encounter a powerful, a successful opponent." * * *

"It appeared to my preceptor, Dr. S. Jackson, that the powers of chloride of soda evidently pointed it out as one of the most promising substances for bringing these ulcers to a more healthy action. A knowledge of the ill success which had attended the common means in the hands of his brother practitioners, determined him to make an application of it in the first case which might seem too severe to yield to the means of known efficacy in mild cases. It was tried in a case which appeared almost desperate, and with success. Again and again was it tried, and every trial increased the Doctor's confidence."

Here Dr. Pleasants gives the case of Mr. Greenough's child, which we shall insert hereafter.

"To enumerate cases in which life appeared to be preserved by this article, I would indeed find no difficult task; but as none more clearly than the above, could prove its power, to avoid useless prolixity they shall be omitted."

Such is the testimony of my pupil, who was present in Northumberland, seeing and hearing nearly all that occurred relative to this disease, during the first year of its period.

The Doctor's Thesis is particularly on the chloride of soda; but he has not neglected the use of ice.

Such are only a few of the testimonies which we might adduce, but they are highly respectable; they are known to many of the first physicians in Philadelphia, and are therefore sufficient for our present purpose.

In the autumn of 1831 and the winter following, this disease prevailed extensively throughout a large tract of country to the west and north-west of Northumberland, not then approaching us nearer than Lewisburgh, eight miles above our town. Throughout all this extensive region it proved very fatal, *as stated above by Dr. Rodrigue*, frequently carrying off whole families of children, and sometimes adults. As it proved very mortal in the town of Lewisburgh, Union county, my friend, Dr. Thomas Vanvolzah, requested me to visit his son and several other patients in consultation. This was the first experience I had ever had in the malignant grade of the disease, and fearing that

it might soon obtrude itself upon my own circle of practice, it became the subject of my earnest inquiry and contemplation.

Nor was it many months till all my fears were realized. The disease invaded my own family, for an account of which I refer to my letter to the Editor of this Journal, in May, 1832, and published in Vol. XII. p. 261.

A subsequent letter was published in Vol. XII. p. 550, in which our further experience was briefly detailed, as also some successful experiments with *chloride of soda* in the sphacelated state of the throat. I then said, that I hoped to give the profession at some future time, a full detail of all that I might learn in the course of my further experience. The cause of this long delay has been frequently inquired of me, both verbally and by letters. I have to answer in the *first* place, that after the disease had blown over in its epidemic form, it was frequently occurring sporadically, and I was willing to wait, not only for further experience, but even till the period of this malady might have entirely terminated. *Secondly*, because I had already said enough to lead others to experiment, and to communicate on a subject so truly interesting.

Since those letters were written in 1832, we have had ample experience with *ice and chloride of soda*, in the treatment of this wayward disease; and we have great pleasure and entire satisfaction in submitting them to the profession, as remedies of surprising efficacy; which, being highly rational to the wise, and truly plausible to the ignorant, cannot, when merely heard of, be neglected by any conscientious physician.

But let us here premise, that we are not boasting of any superior skill, that we refer all our success to a mere accidental *coup d'esprit* which led us to follow the indications of nature, and for which we neither desire nor expect any commendation whatever. We have already had more than our need of praise among the grateful parents in our former sphere of practice.

And let us premise further, that we are not proposing exclusive and infallible remedies in the manner of the quacks. A distinguished physician in this city said to me, "our patients will die notwithstanding your ice;" true, there are many advanced cases that no remedy will ever control; there will always be cases so vehement in the onset that congestions with convulsions will quickly supervene; and there will often occur some patients so young and so unmanageable, as to frustrate continually our most resolute efforts.

In this disease, as in every other, there is no certain routine of remedies. The physician when first called, must consider *the begin-*

ning, the middle, the end, and must contemplate the probable catenation of coming circumstances. This extensive view of things will enable him to consider of a probable succession of remedies which he will have to vary with the ever varying states of the system, whether effected by nature or art, or by the waywardness of patients and their friends. This extensive contemplation of all that *has* happened and of all that *may* happen, is necessary in the treatment of any disease, but particularly of this, wherein the changes for the worse are sudden and precipitous. It is this extensive prognosis which gives the experienced physician his peculiar pre-eminence; he is never taken by surprise happen what may, he is therefore prepared for every emergency, and is careful to forewarn his nurses of every probable change.

Upon visiting a patient in this fever, the first thing to be ascertained, is, whether the excitement is general, or, in other words, whether the whole body is equally warm; for if the head be hot and the extremities cold, the first indication is, to equalize the temperature. The feet and hands must be quickly warmed, and then ice or cold water applied to the head, and ice dissolved in the fauces and stomach, if there be inflammation in the throat, or even if there be merely an excess of internal heat. It is a fact, however surprising to the inexperienced, that merely reducing a local excess of heat in the early stage of disease, will diffuse warmth over distant parts. Dr. Armstrong plunges the whole body except the head into a salt water warm bath. This is no doubt very effectual, but it is often troublesome, and may be generally supplied by more convenient methods. Sinapisms and plasters of capsicum, with frictions, may be often necessary. It is delightful to contemplate the change which this treatment will often effect, even in a few minutes. So accustomed are my patients to see me attend to this state of things, in every species of fever, that all of them, poor and rich, wise and foolish, are wont to inform me how careful they have been to keep the head cool and the extremities warm.

Emetics. These are highly important, and may be given with various intentions, as in many other fevers. They are particularly useful in the early and even in the forming stage, but certainly before the reaction is high or much determined to the brain. In such cases they tend most effectually to the equalization of excitement, to the prevention of what are called congestions, to the total resolution of the incipient inflammation, thus mitigating the disease and shortening its course. Those physicians who maintain that a typhus fever cannot be cut short, we hombly consider as labouring under a most

melancholy and pernicious error. It is true, we cannot cut the thread of the disease, but we can bring the system into such a state, that nature throws off the malady as Celsus says, *tuto, celeriter, et jucunde*, many days sooner than she could otherwise have effected this object by her own unassisted efforts. There are eases of every species of fever which nature alone will cure; there are others which she has no tendency to cure, as all her reactions are for the worse; now if in either of these cases we assist her efforts and retrieve her errors, so that she is thereby enabled to bring the disease to a healthy crisis many days sooner than she could have done so without our aid, surely this may fairly be called "the cutting short of the fever." If we have not done this many hundred times in scarlatina and other typhous fevers, then is it time for us to relinquish both our pen and practice, as no longer competent to either.

But how stop the course of scarlet fever, which, like small-pox and measles, is a disease of a certain duration? True, the mere disease is of a certain and determinate duration, *but the consequences thereof which we may prevent*, often react on the system, prolong the malady, and finally prove fatal.

But to return to our subject of emetics, we are further to observe that tartrate of antimony, given in slightly nauseating doses, is useful in this as in other fevers, when the general strength will bear them. They give the whole disease a centrifugal tendency, promote a moderate exanthema, and by some incomprehensible but well known power they annihilate fever, and that too, very often without any evacuation whatever. Emetics may also be given in many eases to the point of full emesis, several times in the early stages of the disease, for the purpose of ridding the stomach of its foulness, and the bronchi of their suffocating mucus. The tartrate of antimony when the strength will incontrovertibly bear it, is certainly the best emetic in fever; but if there is any hesitation respecting the strength, we should resort to ipecacuanha, or omit this indication entirely.

We are well aware of being here in controversy with many eminent physicians, and particularly with the learned Editor of this Journal, who, believing that scarlatina affects the mucous membrane of the upper portion of the alimentary tube, could not, we presume, be prevailed on to adopt this practice with tartar emetic: but if this medicine be so very deleterious as they suppose, how is it possible for patients to recover under its continual use? Men no more attempt to cure acknowledged phlogosis of the stomach with this medicine, than to extinguish fire with gunpowder; if then, there be a phlogosis, as they

soppose, how is it that this continual feeding of the flame does not increase it? How is it that the fever gradually dies away in so many cases under its continual use? Something may often be learned of the nature of a disease from the *juvantia et lædientia*, and these are our best guide where knowledge is wanting and theory delusive.

Blood-letting. This remedy, in contrariety to our old prejudices, we have found truly useful, and in many cases, we may confidently say, it was indispensable. The extremities must first be warmed, the head cooled, and the excitement rendered as equal as possible over the whole body; if then, the pulse, or rather the system, will bear the loss of blood, the disease will be very greatly mitigated thereby; and if there is coma in the early stage, delirium, intolerance of light, contracted pupil, headache, the approach of convulsions, or any one of these preludes of coming danger, there is hardly any safety without the loss of blood. In the worst cases there can be no substitute, and if it cannot be used, or if it fail, the patient will probably die; there are ten chances to one that you will soon have convulsions, the most fatal symptoms in young children labouring under scarlatina. But the loss of a little blood in this early stage, particularly if it can be followed by tartrate of antimony, either to the point of full emesis or in nauseating doses, or in both these ways, will almost infallibly subdue the disease and render it easily manageable.

It is truly pleasant to contemplate how a little practice will nullify the most inveterate and opinionated theory. There was a time when we busied ourselves in raking up authorities in condemnation of Dr. Armstrong's sanguinary lessons in the treatment of scarlatina, but now we can readily conceive that the disease may exist precisely as that excellent observer has described it. Thus it is, in the language of Tully, that time destroys the fictions of opinion, but confirms the decisions of nature. We have never, however, bled as freely as Dr. Armstrong and others have done, either in typhus fever or in the present disease, with both which we have been very familiar. According to the best of our recollection, we have never bled more than once in the same case, nor indeed have we drawn one drop of blood in more than one half of our patients. This is most clearly a typhous affection, having all the pathognomonics of that sinking disease in which we are justly taught to dread the lancet as generally a great, though sometimes a necessary evil. There is in this form of fever wherever it occurs, a certain incomprehensible tendency to irritability and death, which appears to be utterly independent of congestion, inflammation, effusion, ramollissement and of every form of disorganization whatever; a tendency which does not obtain in any other fever. This

position we hope no one can pretend to controvert who has been thoroughly conversant with the typhus pneumonoides which pervaded many parts of Pennsylvania, from the year 1812 to 1820. That doctrine which taught the *unity of fever*, must have sunk at once in the mind of every physician who poured out blood in this insidious disease as he had been accustomed to do in a common pneumonia. But to return to scarlet fever; we do not pretend to say but that lesions of the brain, the lungs, the bronchiæ, and sometimes of the fauces, are generally the real cause of death; but merely, that if we deplete in the early stage to prevent these, as we are bound to do for preventing the same in a common inflammation, we shall bring the system under the dominion of the typhous influence, and lose the patient without delay.

As to congestion, a word which physicians seem to understand, however they may differ as to the *quo mudo* thereof, in this state of the patient, attended with cold extremities, hot head, feeble or natural pulse, we cannot bleed with safety. The first thing to be done is to warm the extremities, apply ice to the head, to dissolve this in the fauces and stomach if there be inflammation of the throat or even excessive heat, apply sinapisms freely to the arms and legs, give tartar emetic if the pulse rises. All this we have said above, but here is a proper place to repeat it when preparing for blood-letting. The depressed state of the system, whether from congestion or any other cause, we cannot believe was ever in a single case of our practice to be relieved by bleeding, unpreceded by equalizing excitants. Other physicians have had more penetration, or they have had a far different disease to manage; or perhaps, they may contemplate cases with other prejudices, or use words in another sense.

In *typhus gravior* we have often relieved this depressed state by bleeding; but having tried it in a few cases of *scarlatina* without relief, we entirely abandoned it as a primary remedy. We have often tried to bleed in the congested state of *bilious remittent*, or *marsh miasmatic fevers*; but never in a single instance was a severe case in the least relieved. Such has been our experience in the almost innumerable cases of bilious remittent fevers which has fallen to our lot; the experience of others has been very different. We are now speaking, let it be observed, of bleeding in depression, as practised by some physicians, without previous excitation of the pulse, or equalization of excitement.

Of *local blood-letting* in the *scarlatina*, whether by cups or leeches, we have no experience. We have opened the temporal artery in a few instances, but the cases were not such as to afford us any satis-

factory result. The operation is difficult in children, since all wounds in this disease ought to be small, and made with one thrust of the lancet, lest they refuse to heal, and finally form a dangerous ulcer. For this reason we forbore to bleed in the jugular vein; for if the wounds here do not close quickly, the consequences are bad, and must be worse than those from wounds in the arm. In one instance of bleeding in the basilic vein, the wound did not heal, a phagedenic ulcer formed, and ere the child died of the subsequent dropsy, this ulcer was at least three inches in diameter. It is this disposition to sphacelation that renders us fearful of leeches, as also of the sixteen wounds within the small compass of the scarificator. Blisters we have never applied for the same reason. Several of my medical friends, at a distance, used them, and in several instances they produced mortification, attended by circumstances of poignant distress to all the parties concerned. There is certainly something in the fluids or solids, or in both, which is highly adverse to the healing of wounds. Stark of Edinburgh, says that in his epidemic, he saw the leeches fall off dead almost as soon as they had pierced the skin. See No. XXXVIII. of this Journal, p. 506.

Dr. Armstrong says, "blisters are sometimes beneficial, but they should seldom be applied in the advanced stage, as they then not only produce general irritation, but are sometimes succeeded by a gangrene of the part." We are truly surprised with this opinion from so careful a writer. "They are *seldom* to be applied," he says, "in the *advanced* stage, for *then* they are sometimes succeeded by gangrene." Did not Dr. Armstrong know, and does not every one know, that blisters are not apt to mortify for the first few days when drawn in any disease, but that it is after some time when the peculiar vivid stimulus of the cantharides has passed away? Now it is that the sores begin to assume the peculiar gangrenous state of the whole system, they cease to discharge kindly, become dry, of a cineritious colour, and altogether irreclaimable; so that when drawn early in the disease, who can say that they will heal in time to prevent this evil? Who can promise when, or how soon a blister shall heal in any disease, much less in this which seems to poison every wound? In our treatment of scarlatina, we have not blistered in a single case; but we have lost two young children by the parents' neglect of blisters that had been drawn to cure pneumonia. They were left uncovered; they ceased to discharge; became dry and of a cineritious colour; depression of the whole system followed, as in an extensive burn; and death was inevitable. Who ever shall draw a blister in bad cases of scarlatina, must be either ignorant or rash to criminality; in mild cases they can-

not be required. Such has been our deliberate and steady conviction; but the opinion of others must have its weight. Huxham says that he has blistered the throat, from ear to ear, with great success. "These applications," he says, "are useful in common quincies, much more so in this where the humours are so exceeding sharp and malignant." Fothergill, Bard, Heberden, Cullen, and others, recommend them; nor is there a more plausible remedy, *à priori*, in the whole catalogue, and we are heartily sorry that they have been proven, *à posteriori*, to be sometimes dangerous.

Blood-letting, however, is our present subject; we have been led into this, we hope, not useless or impertinent digression, by speaking of the wounds therefrom. The advantages of this remedy we conceive might be very great if used early in the disease, in almost every case of an epidemic scarlatina that is known to be attended by troublesome local determinations; and there are very few cases of the disease, either epidemic or sporadic, in which this state of things does not obtain. The tumours of the glands, which often suppurate, attended by great danger and distress, or in milder cases often continue for years; the consequent dropsy, which is highly insidious, and often mortal beyond the reach of medical science; nay, even the anginous state with all its horrors of putrid sore throat; the mortal extension of the disease into the larynx; the alarming spread thereof into the nostrils; the permanent deafness which sometimes follows; all these, we humbly conceive, may be prevented in many cases by early depletion. But so long as parents will not apply in time to prevent these evils, by the only means that afford any hope, so long will they have to lament the imperfections of a science which does not pretend to execute miracles. Yet there are many cases in which depletion appears to have no place even in the earliest stage.

These are, in the *first place*, exemplified by those patients in whom there is scarcely a sign of fever from beginning to end, the disease attacking the throat by a direct sphacelation, or a gangrene with hardly any perceptible inflammation. In some of these cases the system is suddenly brought under the sphacelating, or perhaps rather the typhous influence, and sometimes the disease appears wholly local, the patient walking about with a good pulse. They are, in the *second place*, exemplified in those patients who are suddenly prostrated to such a degree that nature does not react, but requires the steady use of much stimulation to prevent immediate and fatal sinking.

Cathartics.—These, as every one knows, are indispensable, but there is one that is peculiarly useful. *Calomel*, when given in large doses, makes a decided impression on the whole glandular system, promoting

all the secretions, particularly that of bile, and thereby the brain is relieved of its greatest pressure. This communication was not conceived in the spirit of multiplying words; our wish is to be as brief as possible; hence we must not be expected to dilate on a subject so familiar to every one, as the arguments for and against the use of calomel in fever. *Sapientibus verbum*, is at present our motto; suffice it therefore to say that we have given large doses, fifteen grains to a child of three years old, at midnight, after the evening paroxysm had passed over, giving castor oil the following morning, or more calomel, if necessary, so as to have the desired purging accomplished before the return of the evening exacerbation, being thereby ready at this time to administer nauseating doses of tartar emetic.

This calomel generally produced abundant green stools, a most favourable circumstance for the patient; or in other words, that state of the system which is attended by green stools obtained by calomel, is, in all fevers which we have ever known, most highly propitious.

We are well aware that several pages might be written and many learned quotations made, but the intelligent reader, whether instructed by books or in the school of experience, will quickly anticipate all that could be written. We shall, therefore, dismiss this part of the subject by stating that whether in the scarlatina, the typhus fever, or the bilious remittent, which never was nor ever will be typhous, we have followed this practice with decided and incontrovertible advantage, nor have we ever known salivation or any other evil to result therefrom.

There is one misfortune, however, attending this practice. Every one will decide for himself as to the expediency of using calomel at the same time that he is dissolving ice in the throat and stomach. For our own part, we have not had the hardihood to do it, and therefore, in patients who were not old enough to guard against swallowing the melting ice, we have omitted either this or the calomel; nay, even in the older patients, we have recommended the ice to be used very sparingly. In young children the danger is, not so much of a salivation as that the mercurial action may fall upon the alveolar processes, producing caries and exfoliation. For this reason, it is to be considered, which remedy is the most necessary. If the greatest danger is from inflammation of the throat, the ice is to be preferred; if the brain is oppressed and congestion threatened, the calomel cannot be omitted.

We cannot quit this part of our subject without warning our readers, that patients who are taking calomel and tartar emetic in this disease, must be visited often, lest they steal a sinking march

upon us, unnoticed by the nurses. To cure a bad case of scarlatina, is worth our utmost sedulous efforts, and whether the patient live or die, our apparently supernumerary visits will be remembered with gratitude.

Ice and Chloride of Soda. In this part of the treatment we have little to say, except a few words in confirmation of our former experience, as detailed in Vol. XII. p. 261 and 550 of this Journal; but since writing the letter referred to, we have seen a great deal of the practice of other physicians in scarlatina, who thought they were pursuing our practice implicitly and with no little advantage; but we uniformly observed this great fault, that the ice was not used with such freedom as to derive the greatest advantage therefrom. In cases wherein there is danger from the state of the fauces, and wherein the system would bear such sedation, I would permit very little intermission in the application of ice either day or night, till the inflammation has fairly begun to yield. When cold applications are made to an erysipelatous limb, physicians are not accustomed to intermit them for a single moment. It would be consummate folly to lose in the present hour all that was gained during the preceding. If you have repressed the inflammation during the day, it must not be suffered to gain upon you during the night, merely that the patient and his nurses may sleep.

We employ the ice without any gargle, even after the cineritious spots appear, and till it is plain that they are increasing rapidly upon us and the strength is ready to fail. When there are three or four as large as a dime, or one on each tonsil an inch in diameter, the adjacent parts highly inflamed, with the countenance pretty good, and the pulse unsubdued, the ice is still the only necessary remedy. The parts will soon slough out, leaving healthy ulcers, if prevented from increasing by uninterrupted sedation. But in such cases of partial sphacelation, we have derived advantage from using alternately with ice, a solution of sulphate of copper, eight grains to the ounce of water. In such cases the fiery and too common stimulus of capsicum ought to be held in utter abhorrence; there are cases to which this stimulation is truly adapted, but they are the very furthest advanced that are at all within the scope of medical efforts. It may be that nitrate of silver is peculiarly useful in these cases, but we have known it used by others without profit.

In cases of little children who cannot hold ice in the mouth, there is some difficulty. These will sometimes suck a gauze bag containing pounded ice; they may frequently swallow a little of this or of snow; the water from melting ice may be injected into the fauces; which

operation in the case of these young and wayward patients, is our chief dependence. This is a laborious business, and requires energy with perseverance rather unusual. It is well for the physician to do this himself at every visit, in order to show what can and ought to be done; for let him be assured that unless he exhibit energy, hope and confidence, the parents will sink into something like a state of Turkish fatalism or apathy, and will operate only after long intervals, at an occasional moment when hope may predominate or conscience prove troublesome.

The chloride of soda, such as it is found in the shops, must be diluted with from one part to ten of water, according to the age of the patient; but on this point much experience is wanting.

We cannot leave this part of our subject without again cautioning the reader, that he will find some cases in the course of an extensive practice, wherein the ice can have no place, even from the first. Here there is very little perceptible fever, often no exanthema, a pale and shrunk countenance, the tonsils and neighbouring parts deeply gangrenous with hardly any adjacent inflammation, as though they had passed directly from healthy life to a state of death. For such cases there are many remedies of great power. Very frequent gargling with a solution of sulphate of copper, from ten to thirty grains to the ounce; with the chloride of soda; with the capsicum infusion; these may be used in succession and rotation with the internal use of quinine, mineral acids, wine and animal bruths as general tonics. This practice is very plain and highly efficacious; without this, or some equivalent corroborant method, the patient will shortly die.

Let the practitioner also beware, that when the patient is brought to a state of debility, whether by disorganization or by the operation of medicines, or by the deadening influence of the typhous *entity*, the further use of ice must be directly pernicious. This state may frequently surprise him no little, if he is not continually on the watch. The feeble pulse, the shrunk countenance, the low temperature, the heavy shrunk eyes, the livid skin; these are signs that collapse is not far distant, and that the case is almost hopeless. This state of things must be prevented, for there is certainly no rational hope of a cure; hence, whenever it is plainly threatened, the tide of life is approaching its ebb and the use of ice must be quickly abandoned, whatever inflammation prevail in the throat. The nature of the disease is such, that patients do not die of disorganizations so much as of that incomprehensible influence which has been called *typhus*, the deadly operations of which on the human body, are greatly favoured by all debilitating causes, and as greatly counteracted

by appropriate tonics, provided that disorganizations do not counteract their just effects and salutary agency.

We shall, no doubt, be reproached for those speaking of *entities* and *influences* which cannot be referred to internal lesions or to some ascertainable cause. We have stated our opinion, but have no space to discuss the subject. It may be observed by the way, that what cannot be understood must yet be treated of under some name, and that it would be well for those who pretend to assign a cause for every phenomenon, to remember how many *entities* or *influences* there are in the world which cannot be referred to any probable cause, and that Newton himself entirely failed in attempting to explain even one of these, the attraction of matter. But every effect must have its cause; the doctrine of the Epicurean poet, *Nullam rem è nihilo gigni divinitus unquam*, however untrue as it regards the first creation, is yet true with respect to the various operations of nature. Hence, the peculiar phenomena of typhous fever must have their secret cause, which, in our utter ignorance thereof, we may venture to call for the present an *entity* or *influence*.

Ablutions.—We have lately been in the practice of using the *chloride of soda* as an ablution, one part of the medicine to eight or ten of warm water. We do not suppose that it is, as respects the disease, specifically beneficial; but this method of applying the contra-infecting agent, is the best that can be invented. If any contagion come from the pores, it is met by the chlorine under the bed-clothes, while that which comes from the breath can be counteracted by the diffusion of this salutary gas in the air of the room. The benefits of this treatment in the typhus fevers of France and Ireland, do certainly most strongly recommend it in the present disease, which is only another form of the typhous effervescence, often more malignant and more contagious.

We at first gave calcined charcoal as an agent of purification, but now we depend on the chloride of soda. In little children, in whose cases we may be obliged to inject it into the fauces, it may be presumed they will swallow the necessary quantity; but with others it may be given mixed with water. Whether it has any specific influence over this disease, must be left to further experience; meanwhile there are many facts that recommend this medicine as a direct antidote in typhus fevers.

Cold affusion.—Some readers are already surprised that we have thus far neglected this popular remedy. We have used it, times innumerable, in bilious remittent fevers, but never in scarlatina; nor, indeed, would it have been tolerated by most of our patients, owing to its having been very freely used many years before with the effect,

as was *supposed*, of permanently injuring the hearing of very many young persons; nor yet were we very desirous of using so repelling a remedy in an exanthema so ready to retreat to the vitals.

We have thus given the outline of a practice which, in our former sphere, had the universal credit of being eminently successful, in a disease which spread desolation and dismay through a great extent of country, to the north and west of Northumberland, as described by Dr. Rodrigue in his letter already quoted, and by my pupil Dr. Henry Pleasants, in his Thesis, from which I have already made extracts. From this Thesis I shall now transcribe a case as it was drawn up by myself, since it may serve as a useful illustration of a successful practice, including more than three hundred cases, exclusive of those mild cases which are presumed to fall within the curative operations of unassisted nature.

"Some time in last October I was called to a child of E. Greenough, the eminent attorney of Sunbury. The other children had been slightly affected with fever and sore throat, but medical aid had not been thought necessary; and hence this child of seven or eight years old, had not been properly attended to, until the malady had arrived to an alarming height.

"The patient was very delirious; head hot; face flushed; pulse strong, frequent, quick, and tense; lower extremities cold; the whole mouth and fauces, as far as they could be seen, were covered partly with inflammation, and partly with ash-coloured gangrene, which showed no sign of separation; there was no scarlet eruption on the skin; the patient, either from inability or delirious caprice, refused to swallow any thing whatever, and even to utter an articulate sound.

"The indications were, to avert or remove inflammation of the brain, and to arrest the gangrene."

"Her feet were put into warm water, and she was bled largely from the arm. She was then supported in an upright position till syncope was approaching, when she puked freely, and a general perspiration supervened. She soon, however, became hot and dry, when a large bucket of cold water was poured on her head, in a long continued steady stream. This was frequently repeated during the night, and her feet preserved warm."

"With respect to her bowels, as she utterly refused to swallow, they were to be opened as much as possible by repeated enemata."

"To cool her mouth and subdue inflammation, she was indulged in the free use of ice water. This she took from a pitcher as an unsuspected vessel, and she was employed fully nine-tenths of her time in washing out her mouth. She neither spoke nor swallowed, but kept fast hold of the pitcher nearly every moment of her time, as though her good genius prevailed in her delirium, and wisely directed her to this as a means of safety. I should have used ice in my common way, but her delirium prevented me. Cups to the neck, and leeches to the throat, would have been highly proper, but her delirium would have rendered any attempt to apply them utterly abortive."

"The next day she was in every respect apparently the same, except that the gangrene had made an alarming progress, and the pulse was more feeble. The same treatment was continued with the addition of injecting chloride of soda into the fauces."

"This plan of treatment was pursued with vigour, till the amelioration of the ease permitted us to relax it gradually. About the fourth day of my treatment, the gangrenous parts began to slough away, leaving a healthy surface, and on the fourth or fifth, she took food and returned gradually to her senses."

"In this case, the chloride of soda, as far as I know, was first used in cynanche maligna, and such were its happy effects, that the progress of the gangrene was arrested in a few hours."

Now for any person so prejudiced as the present writer, to contemplate this case, it seems hardly possible to have saved life by any other known means. Without bleeding *ad deliquium animi*, with the consequent immediate puking and perspiration, she would almost certainly have sunk under inflammation of the brain. This blood-letting could not have been effected with certainty without thoroughly warming the extremities and thus equalizing the excitement. The cold dash, repeated nearly as often as the head became hot, was surely well calculated to repress the rising encephalitis. This sudden evacuation of the stomach could not have been obtained in any other way, as she refused to swallow, neither was there any safe means of exciting a perspiration, which, though temporary, must have obviated a little the increasing inflammation. The practice of bleeding *ad deliquium animi*, so as to bring on puking with a perspiration which may be prolonged by drawing the bed-clothes over the patient's head, so that he must reinhale the same air continually, is, we conceive, the only efficacious method of detracting blood for the purpose of suddenly subduing an intense local phlogosis in the onset of typhous fevers wherein there is little to spare, and wherein too, the operation can seldom be repeated.

In the above case, in which the mouth and fauces were highly inflamed and running into gangrene, it may be fairly inquired, what would have been the effect of the capsicum gargle? Was it ever applicable to such an inflammation? or, to such an inflammation can any thing be more agreeable than the ice water, unless indeed the ice itself, which she would not use in her delirium? Even when the gangrene began to spread rapidly from an excess of surrounding inflammation, could there be a more plausible remedy than ice, as it could operate only on the living parts which were gradually dying of an excess of *calor, rubor, dolor, tumor*? If we say that the chloride of soda was useful when the gangrene began to predominate, we merely state an apparent fact, and refer to experience. This experience we have had

Fig 1

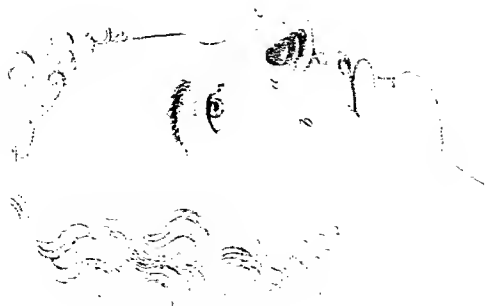


Fig. 2



Fig 3



Fig 4



in very many cases, others have used it also with very great success, to which we may add, that the general voice is very strongly in favour of its use in nearly all gangrenous lesions.

Philadelphia, February, 1838.

ART. IV. *Rhinoplastic Operation*. By THOMAS D. MÜTTER, M. D.,
Lecturer on Surgery, &c. [With a Plate.]

About the 1st of October, 1837, I was requested by Professor Jackson to visit, in consultation, a gentleman from the South, who had had the misfortune to lose a considerable portion of the right half of his nose.

Without entering into a history of the case, which would have but little bearing upon the operation to be described, I shall proceed at once to state the character of the deformity, and the means employed to accomplish its cure.

Upon reference to *Pl. I., Fig. 1*, it will be seen that the whole of the right ala, as well as the adjacent soft parts, as high up as the os nasum of the same side, are wanting. As a consequence of this loss, an opening half an inch in its *perpendicular* diameter, and about three-quarters of an inch in its *transverse*, at the widest part, and of the shape represented in the sketch, was established. The margins of this opening were thin and callous, while the neighbouring tissues, to the distance of two or three lines, were much paler and firmer than natural, owing to the deposit of lymph, during the period of inflammation to which they had recently been subjected.

The septum nasi, the os nasi, and the Schneiderian membrane were perfectly sound. The face was rather full, and its integuments healthy, with here and there a small cicatrice, the result of previous local inflammation.

As the deformity was striking, and as the deficiency of nostril on one side modified the voice, so as to render it rather disagreeable, the patient determined to submit to any operation that promised success. His general health, though delicate for some years past, is at the present moment excellent; while his age, (28,) and temperament, (sanguine,) rendered our prognosis, respecting the results of an operation, very favourable.

Not wishing, however, to take the whole responsibility of an operation.

No. XLIII.—MAY, 1838. 6